

***Remarks***

Upon entry of the foregoing amendment, claims 1-24 are pending in the application, with claims 1, 2, 9, 10, 17, and 18 being the independent claims.

The indication of allowability of claims 2-8, 10-16, and 18-24 is noted with appreciation. Dependent claims 2, 10, and 18 are rewritten in independent form, thus making claims 2, 10, and 18-21 ready for allowance. Claim 9 is amended to broaden and clarify its scope. The Field of the Invention, Summary of the Invention, and Abstract have been amended to increase their clarity in view of the subject matter of this application. No new matter is entered by these changes, and approval of the changes is requested.

Claims 1, 9 and 17 were rejected under 35 U.S.C. 102(b) as anticipated by U.S. Patent 4,034,305 to Sato. This rejection is respectfully traversed, and reconsideration is requested based on the following remarks.

Claims 1 and 9 (as amended) each recite that a modulation feedback loop in the circuit includes (1) a quantizer, and (2) a mapper connected to the quantizer that produces a pulse output with pulse width that is a function of the quantizer output.

It is respectfully submitted that the Sato patent, insofar as the undersigned can determine, does not disclose a mapper located within a feedback loop as defined by claims 1 and 9.

Claim 17 recites a modulator circuit, including "a filter producing an output signal *which is a function of the modulator input signal and of said mapper output signal*, a quantizer having an input that receives said filter output signal and having an output that produces a quantized representation of said filter output signal, and a mapper

connected to receive said quantizer output and having a mapper output that transmits the mapper output signal, where the mapper output signal provides pulses whose pulse energy is a function of said quantizer output." (emphasis supplied)

The Sato patent does not appear to disclose a filter producing an output signal that is a function of both the modulator input signal and the mapper output signal. That is, Sato's circuit does not have any feedback or other connection from the mapper output signal back to a filter circuit providing an output to a quantizer having its output connected to the mapper.

It is therefore respectfully submitted that Sato does not disclose a circuit having a filter, quantizer, and mapper connected in the recited manner with the filter output based at least in part on the mapper output. Sato does not appear to include a signal connection from the output of a mapper back to a filter circuit located ahead of a quantizer.

It should be noted that in exemplary embodiments described in the specification, the inclusion of the mapper in the feedback loop has been found to reduce the generation of harmonics and to provide other useful benefits. For example, see Paragraph 27 of the specification at page 7.

### ***Conclusion***

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicant believes that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will

expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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